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ABSTRACT

This is a comparative study of the cognitive, reading, and achievement levels of Italian Americans in bilingual programs and of their monolingual Italian and American peers. Three groups of students age 10 to 13 were matched within and across groups, according to schools, grade level, dialect, and socioeconomic status. Group I was subdivided into Italian Americans born in the United States and in southern Italy. Group II consisted of Italian students who emigrated from southern to northern Italy. Group III was composed of American students. Factors including number of years in the United States, sex, age, grade, environment, teacher estimate, and report card grades were analyzed. To examine cognitive and reading levels, a nonverbal intelligence measure and reading tests were administered. Achievement was determined by combining teacher estimates and report card grades. The data were then analyzed in order to: (1) indicate which of the variables (cognitive, reading, and achievement levels) are related within and among the three groups, (2) examine the differences among first and second language proficiency levels between groups, and (3) indicate the overall variance between first and second language reading and achievement levels within Group I. Relationships among the variables were determined, as well as factors related to each. The specific conceptual, language, and literacy needs of Italian American bilinguals were determined. (Author/JB)

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An Analysis of the Reading and Cognitive Development of Italian-American Bilingual and Monolingual Students

by

Maria Lombardo, Ed.D.

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ABSTRACT

This is a comparative study of the cognitive, reading and achievement levels of Italian/Americans in bilingual programs with their monolingual Italian and American peers. Three groups of students were matched within and across groups, according to schools, grade level, dialectical backgrounds, and socio-economic status (SES). Group I, from bilingual classes was subdivided into both Italian students born in the United States and students born in Southern Italy. Group II consisted of Italian students who emigrated from southern to northern Italy. Group III was composed of American students. Exploratory factors including number of years in the U.S. (where applicable), sex, chronological age, grade, developmental age, environment, teacher estimate, and report card grades that influence cognitive development, reading and achievement, were analyzed.

To examine cognitive and reading levels, a non-verbal intelligence measure and reading tests were administered. Achievement was examined by combining teacher estimates and report card grades. The data was then analyzed in various ways in order to: (a) indicate which of the variables (cognitive, reading and achievement levels) are related within and among the three groups, (b) examine the differences among L_1 and L_2 reading, cognitive development, and achievement levels between Groups I and II; Groups I and III; and Groups II and III, and report on contributing factors for variance, and (c) indicate the overall variance between L_1 and L_2 reading and achievement levels within Group I.

The results indicated the relationship among the cognitive, reading and achievement levels of bilinguals in comparison to those of monolinguals, and the factors related to these areas. The specific conceptual, language and literacy needs of Italian bilinguals were determined and considered in improving bilingual programs for limited English proficient (LEP) students.

I. INTRODUCTION/BACKGROUND

To conduct this study two proposed sites were contracted in the U.S. and in Italy. In the U.S., the Boston school system was selected because (a) the students in this area are most representative of the Italian immigrant population in this country, and (b) the 1978 immigrant statistics (U.S. Department of Justice, 1978) indicated that out of the 194,683 total Italian resident aliens in the U.S., 12,651 resided in Massachusetts. These immigrants are generally from Southern Italy. They speak dialects and, in some cases, standard Italian. The predominant dialects spoken are: Siciliano, Napolitano, Calabrese, and Abbruzzese. In Northern Italy, the Perugia School System was identified because many of the students in its schools represent the same Southern population that usually immigrates to the U.S.

In the first site, Boston, the Italian population is the third largest. Since 1970 the influx of Italians has increased as a steady rate (United Community Planning Corporation, 1978), and in 1976 it was reported that 12,000 such immigrants arrived at the Boston seaport (U.S. Department of Justice, 1976). There are 461 limited English proficient (LEP) Italian students in grades K-12 serviced in seven schools, which are located in the East Boston and North End areas. These bilingual programs are designed to service Spanish, Chinese (Cantonese), Italian, Greek, French (Haitian Creole), Portuguese, Cape-Verdean, Vietnamese and Russian students. Such programs emphasize that (a) the native language be used in all required subjects; (b) reading and writing be taught in the native language; (c) ESL be instructed; and (d) lessons deal with the history and culture of the native country of the parents. For art, music, and physical education, there is immediate mainstreaming.

In tracing the history of bilingual education in Boston, although it was reported by Kobrick (1972) that only four Puerto Rican students had graduated from high schools in 1965, , assistance for limited English speakers was not initiated until 1967, at which time Title VII programs attempted to alleviate the high drop-out rates by providing these students with English as a Second Language (ESL) instruction 45 minutes per day.

In 1971 action was taken by the Commonwealth of Massachusetts to oversee the implementation of full-time Transitional Bilingual Education throughout the state. The state law mandated that in such programs limited English speakers had to be instructed in the native language (L_1) and second (L_2) language , for a period of three years, at which time students would be and are mainstreamed into the all English curriculum.

In 1974 federal legislation as to which students belonged in bilingual programs was enacted as a result of the Lau vs. Nichols case. The Supreme Court noted that in order to properly service limited English speakers, schools had to identify them and meet their L_1 and L_2 needs. The Court designated a Task Force to develop the guidelines which, became known as the Lau Remedies (Department of Health, Education and Welfare, Task Force Findings, 1975) for identifying students as:

A. Monolingual speaker of a language other than English (speaks the language other than English exclusively)
B. Predominantly speaks a language other than English (speaks mostly the langauge other than English, but speaks some English)
C. Bilingual (speaks both the language other than English and English with equal ease)

D. Predominantly speaks English (speaks mostly English, but some language other than English)

E. Monolingual speaker of English (speaks English exclusively) (p.2)

Once students are categorized as A,B, C, based on their primary or home language, then programs are designed to meet their first and second language needs.

To comply with the federal law, in 1977 and 1978 the Lau Unit was organized to ensure implementation on Boston's Voluntary Lau Compliance Plan. The plan included identification, assessment and placement of limited English speakers. The identification of students' language usage has been through home and classroom surveys. In the case that these did not cross validate, then the student's dominant language has been analyzed through language dominance tests.

More recently, the 1978 Educational Amendments have been even more specific advocating that students to be serviced in bilingual programs are those who have difficulty with speaking, reading, writing or understanding English, and they need to have these skills developed. With this extended focus beyond oral language, Boston's Lau Unit is presently beginning to look at ways to examine students' language proficiency or degree of ability in listening, speaking, reading, and writing in L_1 as well as L_2.

With the 1980 Lau Guidelines' stipulation that reading achievement be assessed, cloze tests are being developed to examine the reading abilities in the native and second languages of Spanish and Chinese bilinguals. This effort is being sponsored by the Inter America Associates as part of a study; "Reading Comprehension of Spanish and Chinese Speaking Students: The Relationships Between Native and Second Language Reading Comprehension and Second Language Oral Ability," (Brisk, Tregar, Lau Unit, Lombardo, 1980).

Perugia, Italy, is the second site where data was collected. This city has one of the largest influxes of Southern Italians, who migrate there for economic reasons. The SES of this group is low with many families concentrated in industrial zones, such as Sesto di San Giovanni, the selected area for this study.

This Southern population in many instances finds itself in a second language environment since dialects in the home predominate over the standard Italian language used in schools. Thus the children of these immigrants, similarly to the Italian/American bilinguals, find themselves possessing a dialectical oral L_1 and confronting a standard written L_2.

The situation creates linguistic problems since the phonological system of Southern dialects is so different from that of standard Italian. Consequently, students confront the following difficulties: (a) stigmatization by peers because they do not verbalize standard Italian well; (b) constant frustration throughout the school day in a system that is heavily reliant upon the standard oral language; (c) difficulty with content area subjects because of limited vocabulary in the standard language and (d) poor conceptual development, because of limited experiential backgrounds.

The reading program is structured so that students receive five hours of formal instruction weekly. Students complete four written tests each semester and two oral tests that examine knowledge of grammar, epic, amd anthology.

II. STATEMENT OF THE PROBLEM

With the growing legislative and educational concern for the improvement of instruction for limited English proficient (LEP) students (US/OBE, 1980), it is necessary to research the needs of existing bilingual programs. The rationale for conducting this study stems from two interrelated problems: (a) the accountability on the part of educators to review and judge existing bilingual programs in terms of placement, achievement and monitoring of bilingual students, and (b) the need to analyze the specific problem of individual language minority groups in ensuring educational equity to all minority groups.

In addressing the first problem, educators concerned with placement of LEP students must (a) initially determine the language proficiencies of bilinguals; (b) continually conduct ongoing assessment of students' language proficiency; and (c) defend, or, at least explain, the benefits of bilingual education programs for these students.

To examine the language proficiency of LEP students, educators must not only focus upon students' communicative competence, i.e., ability to listen, speak, read, and write, but must critically evaluate the measurement instruments used to determine such competencies (Mercer, 1971, Cohen, 1980).

Once placed in a bilingual program, LEP students' language proficiency has to be continually examined and instruction accurately adapted. This is crucial since overall academic achievement is so heavily dependent upon language proficiency (Goodman, 1976; Lambert and Tucker, 1972).

Only by following this process can educators hope to support the relevance of bilingual education and respond to (a) general criticism of bilingual education (Epstein, 1977), and (b) findings (Air Report, 1977) indicating that LEP students are performing below grade level in critical areas such as reading, in spite of their participation in bilingual programs.

The second problem that educators face is the need to empirically support the soundness of bilingual programs by focusing upon the individual needs of each language minority group that is serviced. They must (a) relate previous research (Orata, 1953; Modiano, 1968; Burns, 1970) supporting that native language proficiency directly influences second language proficiency and they need to empirically demonstrate this contention with new research conducted for specific minority language groups; (b) address such issues as the time duration alloted by bilingual legislation; and (c) evaluate how well equipped bilingual students are at the end of three years in terms of language and cognitive development in order to be mainstreamed and to compete with their monolingual English speaking peers.

The third point is extremely important because findings indicate that bilinguals must attain a threshold level in both languages before bilingualism can positively affect language and cognitive development (Cummins, 1977, 1979). Should this not be allowed to occur then the bilingual will be hampered and often become "semilingual" or an individual "possessing less than native like skills in both languages" (Cummins, 1979, p. 13). Cummins (1979) further expounds that the level of L_2 competence reflects the L_1 competence attained. In fact, he asserts that the "linguistic competence" attained by a bilingual will directly "mediate the effects of bilingualism on his academic and cognitive development" (Cummins, 1979, p. 23). Support of this notion comes from a recent study (Rivera and Lombardo, 1979) which found Puerto Rican bilingual students in the Boston area to be functioning below grade level in their L_1 and L_2 and to be behind in their cognotive development in relation to bilingual students of the same age, grade and SES living in Puerto Rico.

To meet the aforementioned needs, this study focused on the examination of language (reading) and cognitive development of Italian/American bilinguals. The sample was selected because of the scarcity of research with this group, which is one of the largest minorities on the northeast coast of the United States and for which there are 24 bilingual programs nationwide.

Most of the research, thus far, dealing with Italian/Americans has evolved from sociological and linguistic perspectives. Generally, the Italian communities or the "little Italy's" have been analyzed in terms of the social structure of the community, the family structure, interaction among community members of various ages, mores and economic and social mobility (Whyte, 1955; Gans, 1962). Covello's work (1967) was more comprehensive and specific to New York City's Italian community. He not only described the community as a whole but he focused on the educational problems of Italian Americans, through analysis of school, student and family attitudes and expectations.

More recently, Biondi (1975) investigated the sociolinguistic acculturation of Italian/Americans including the language maintainance and language shift in the North End of Boston. He provided complete descriptive data of the linguistic and socialization process of monolingual and bilingual children. Through questionnaires and tests he analyzed the speech patterns and linguistic development in Italian and English for these students. His results indicated : a) patterns of phonological structures among various age groups and b) out of 30 bilingual children, from Italian dialectical backgrounds, 11 (4 were in 1st grade; 2 in fourth grade; and 5 in eighth grade) could read standard Italian and only 4 eighth grade girls could write Italian at a basic level.

The linguistic structure of the Italian/Americans' language has also been studied. Di Pietro (1978) has noted the code-switching process of Italian

immigrants as they acculturate into the American society.

In another study (Kessler, 1971), Italian/American bilinguals of dialectical backgrounds from the North End of Boston were examined to note the syntactic structures and rate at which these are acquired at various levels of cognitive development. Results indicated that structures common to both languages are attained in the same order and at the same rate. It was also noted that these same students (ages 6 to 8) were able to comprehend standard Italian better than they were able to express it because they spoke a dialect. Based on the linguistic realities of the language of Italian/American bilinguals, reading (crucial to overall school performance) and cognitive development must be analyzed in great detail in order to better the L_1, L_2 education of this group.

III. REVIEW OF THE LITERATURE

In order to place cognitive and language development and achievement in proper perspective, literature must be reviewed with consideration of: a) the relationship between cognitive development and language development; b) the relation between cognitive development and bilingualism; c) the interrelation of cognitive development with oral language, and reading; and d) the reality of the existing tri-lingual issue of reading for Italian/American bilinguals.

Language and Cognitive Development

The views of Piaget and Vygotsky provide a framework for understanding the controversy of whether language and cognitive development are related or are independent of each other.

Piaget (1970) postulated that an individual is capable of concept formation without the use of language until the Formal Operation Level, at which time language could prepare and extend the range of this stage.

Vygotsky (1962) maintained that language is a mediator of thought and that conceptual development cannot occur independently of language. He suggested that language is not only bound by thought, but it may even be thought.

Bilingualism and Cognitive Development

With the notion that there may be a relationship between language and cognitive development, the issue becomes: What effect does bilingualism have upon cognitive development? Vygotsky (1962) argued that it may or may not inhibit a child's cognitive development. It may deter cognitive development if a second language in any way leads to lack of "clarity of thought." However, if an increase in the ability to use language develops (i.e. in the cognitive processes of memory, perception, etc.) bilingualism will most likely enhance cognitive development by promoting the development of higher order thought processes.

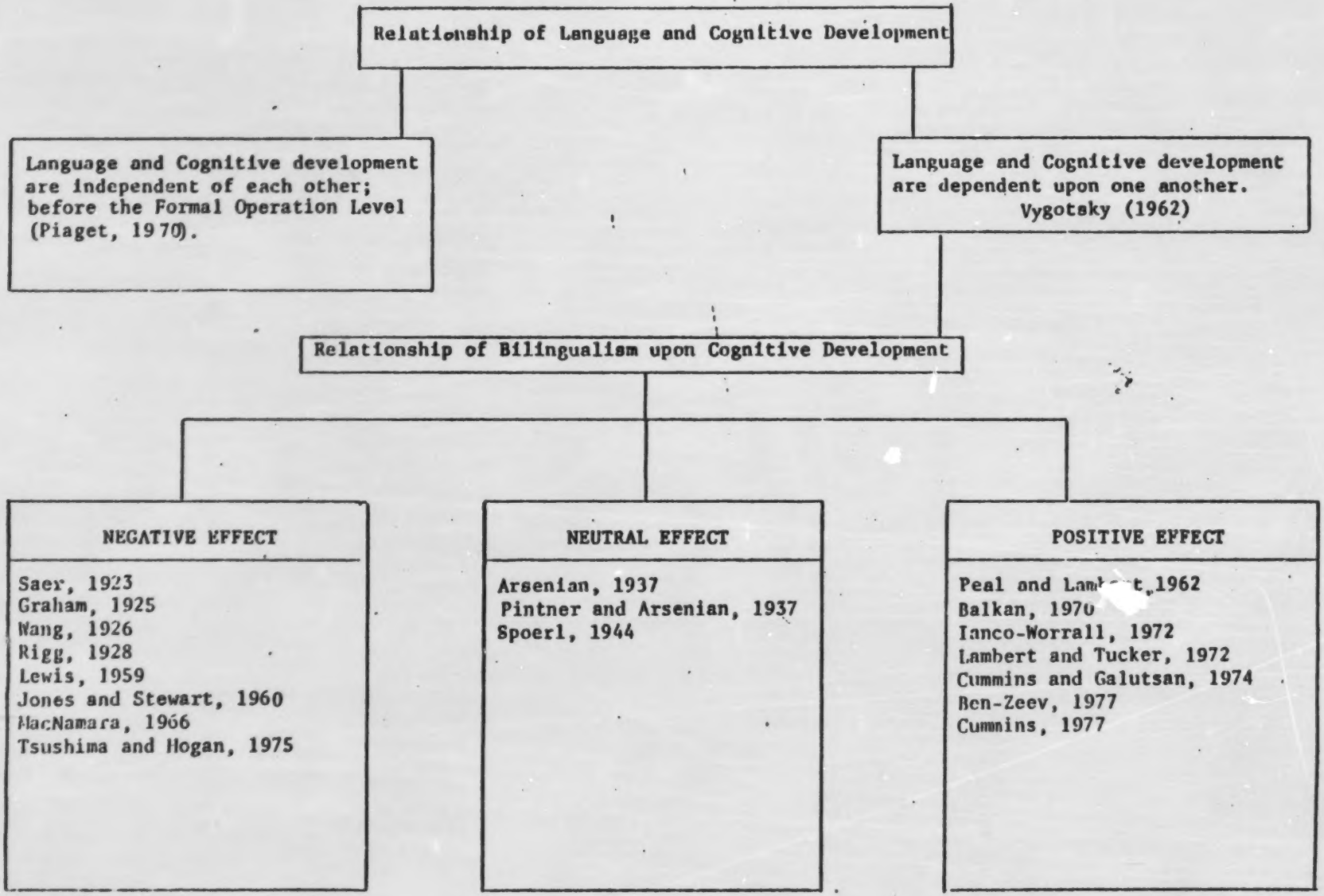
Based on Vygotsky's (1962) suggestion that language is related to cognitive development, researchers (Figure 1) have examined bilingualism's effect on cognitive development and have found negative correlations, no correlation, and positive correlations. In reviewing these studies, Cummins (1977) offers an explanation as to why discrepancies arise. He stated that there is no one state of bilingualism and that bilingualism does not influence the lives of bilinguals in the same manner. Since there is no clear cut notion of bilingualism, Cummins (1976) suggested that it should not be expected that research on the effects of bilingualism should produce similar results.

Early studies in the 1920's (Saer, 1923; Graham, 1925; Wang, 1926; Rigg, 1928) and several later studies (Lewis, 1959; Jones and Stewart, 1960; MacNamara, 1966; Tsushima and Hogan, 1975) have indicated negative results.

In spite of the fact that these studies generally indicated the superior performance of monolinguals under certain conditions, it is questionnable whether the findings of the studies are attributable to bilingualism or to other experimen-

Figure 1

STUDIES ON THE LANGUAGE (L_1, L_2) AND COGNITIVE DEVELOPMENT OF BILINGUALS



tal variables such as age, socio-economic status (SES), educational background, testing instruments or the degree of bilingualism between the control and experimental groups.

The Saer, Graham, and Wang studies have been criticized for poor control of SES (Lambert and Tucker, 1972; Cummins, 1977. In the Saer and Jones and Stewart studies, the validity of translating standardized intelligence tests into Welsh is questionable. Thus these negative studies, as Cummins (1977) indicated, do not say a great deal about what factors contribute to negative results.

The older studies indicating that cognitive development was neither accelerated nor retarded by bilingualism were those of Arsenian (1937), Pintner and Arsenian (1937) and Spoerl (1944). The first two of these studies, like the negative studies, can be criticized for their poor control of the degree of bilingualism. The third study on the other hand controlled for the variables of age, sex, SES, and intelligence, but did so only to an extent.

In contrast to the results of the previous studies many more recent studies (Peal and Lambert, 1962; Balkan, 1970; Ianco-Worrall, 1972; Lambert and Tucker, 1972; Cummins and Galutsan, 1974; Ben-Zeev, 1977; and Cummins, 1977) demonstrated a positive correlation between bilingualism and the development of general intelligence skills.

Cummins (1977) pointed out that in each of these positive studies, although variables have been more carefully controlled, the studies are not without "methodological defects." In the Peal and Lambert (1962) background differences between the bilingual and monolingual group, although controlled, could have been biased by the manner in which the "fluent" bilinguals were separated from the monolinguals (Cummins, 1977). The fluent bilinguals could in fact have been the brighter students. These same background differences could have contributed to bias in the Cummins and Gulutsan (1974) study. Additionally, Cummins (1977) stated that bias was not prevented by controlling the factor of SES if its determination

was based solely on parental occupation. He suggested that although there are debatable elements in the more recent positive studies, they do confirm the fact that under certain conditions bilingualism can accelerate rather than retard cognitive development.

The issue then becomes - why contradictory research findings? Lambert and Tucker's (1972) distinction between "additive" and "subtractive" bilingualism provides an explanation. An "additive"situation occurs when a majority language member adds a new language (L_2) without fearing loss of the native language (L_1). On the other hand, "subtractive" bilingualism occurs when there is what MacNamara (1966) terms a "balance effect." This occurs when a bilingual in a language minority group develops language skills in one of his two languages and "pays for it by a decrease in competence in the other." (MacNamara, 1966). Unfortunately, this has been the case with most U.S. bilingual programs, which use L_1 only as a connection (transistion) to L_2 (English). When the transistion occurs, L_1 is usually forgotten.

The problem resulting in this process is that if students have not attained a threshold level (Cummins, 1979) then their language and knowledge capabilities will not be comparable to those of their monolingual counterparts.

Contradictory findings may be explained by the fact that earlier studies failed to control for the degree of bilingualism. In each study, whether L_2 was an additive or subtractive factor, might explain negative or inconclusive results. In the later, positive studies, the control of degree of bilingualism and the fact that L_1 and L_2 were "additive" possibly accounts for the more favorable results.

Cognitive Development, Oral Language, and Reading

Having reviewed the relationship of bilingualism and cognitive development, the next issue is oral language, reading, and the cognitive development of the bilingual. The premise is that "since learning to read depends heavily upon

language and thought, it appears that a higher level of linguistic competence would be beneficial to the beginning reader" (Kaminsky, 1976, p. 166). Carroll (1977) supports the hypothesis that reading is a "transaction" between "print and ideas" and it is dependent upon language "comprehension and cognitive ability" (p. 5). Dealing more specifically with comprehension of oral and written language, researchers have noted that language development is based on children's conceptual development, (Taylor, 1969; Ingram, 1974; Bradley, 1970; Smith, 1971; Carline and Hoffman, 1976; Deosaran and Gersham, 1976; and Ruddell, 1976). This, of course, is usually no problem for the monolingual, whose oral language and internal cognitive network matches the structure and content of written material. In most cases, the child learns decoding strategies (Gough, 1972; LaBerge and Samuels; 1974; and Rumelhart, 1976) and deciphers the print and comprehends. The process is facilitated by the fact that the child has a deep structural representation of the language (Fillmore, 1968) and has a model of the world to be confronted in print (Ingram, 1974). Thus, based on his oral language knowledge, he makes predictions in reading text (Goodman, 1976).

If oral and written language are related, individuals may have problems in reading when confronted with a second language which has a different linguistic structure and that is based on a different model of the world (Loban, 1963; Chastain, 1976; Goodman, 1976; Chu Chang, 1979). The result is that subjects become frustrated as they continually predict the syntax and semantics of the L_2 based on those of their L_1 (Garcia, 1977). The notion of having children undergo this process seems futile. However, this had been the case of non-English speakers in the U.S. before bilingual education (Title VII Bilingual Education Act, 1968). Although certainly a step in the right direction in helping non-English speakers become literate, the law favors transitional bilingual programs, with the ultimate goal being that the non-English speakers be mainstreamed into an all English curriculum

The concept of bilingual education or the instruction in two languages is an effective initial approach based on the sound notion that students instructed in L_1 before they are introduced to L_2 reading tend to transfer skills and perform well in L_2 reading (Orata, 1953; Modiano, 1968; Wise, 1969; Burns, M., 1970). This process is a logical alternative for instructing reading to LEP students. However, what happens in the case of the Italian/Americans, whose L_1 constitutes concept formation via a dialectical oral language for which there is no print and he/she is forced to read a written standard language (L_1) which is in most instances incongruent to the student's dialect? To further compound the issue, what happens when the same student has to decode L_2(English), a language for which he/she may not only have incomplete oral language development, but also conceptual development? These questions highlight the tri-lingual issue faced by the Italian/American LEP students.

The Tri-Lingual Issue of Reading for Italian/American Bilinguals

To address this issue, Italian/Americans' reading processes must be examined for those students entering and continuing in the bilingual program in terms of initial attainment of Italian and English reading, and the maintainance and improvement of reading in L_1 and L_2 beyond the decoding stage.

Initial attainment of Italian and English reading should be considered for two different types of LEP students who are presently not being differentiated in bilingual programs. One is the literate, recent Italian arrival and the second is the illiterate student,born in the U.S. or in Italy. Both types are characterized by a dialectical background. The most prominent dialects are Siciliano , Napolitano, Calabrese , and Abruzzese.

Before looking at the reading process that these students undergo, the differences between the two groups must be examined. Table 1 characterizes the linguistic features of literate and illiterate students. The recent literate arrival is most prepared to read in L_2 (English) because he/she has the essential

literacy skills necessary for reading, already developed. He/she may or may not have an oral dialect, his/her knowledge of oral standard Italian is at least at a competent level, and he/she has already learned to "crack the written code". In terms of English, he/she may or may not have aural/oral skills. On the other hand, the illiterate student has knowledge of his/her oral dialect but barely or no knowledge of standard Italian. He may have limited aural/oral skills and limited or no English literacy skills if he was born in the U.S. or has lived here for several years prior to entering school.

Table 1

Language Characteristics of Literate and Illiterate Italian/American Bilinguals

Student	Language Characteristics				
	Aural/Oral Language (Oracy Skills)			Reading/Writing (Literacy Skills)	
Literate	dialect + -	Standard Italian +	English + -	Standard Italian +	English -
Illiterate	+	+ -	+ -	-	-

Given the language competence that Italian/Americans possess, the reality in terms of initial reading for literate and illiterate students is quite different. (Table 2). The literate student enters the program and continues reading in standard Italian while at the same time he is provided ESL and later introduced to English reading. The problem with this approach is that the literate student may be subjected to long intensive ESL instruction while he/she would have been very confortable attacking the printed page, since this student has literacy skills to transfer to the second language.

Regardless of the initial approach used, a general problem that eventually

Table 2

Initial Cognitive and Language Development for the Literate and Illiterate Italian/American Bilinguals

Present Situation of Bilingual Program

Literacy*	Cognitive Development	Language: Oral Language	Language: Reading/Writing
Literate Student	Reading standard Italian ESL	ESL ← (occurring simultaneously) → English	Standard Italian
Illiterate Student	Reading standard Italian	ESL ← (occurring simultaneously) → English	Standard Italian

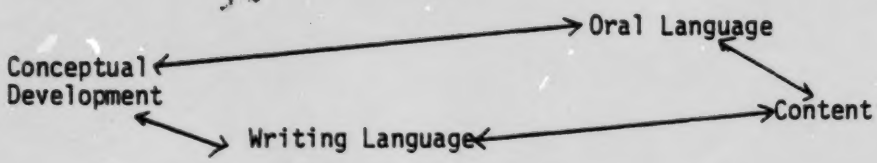
*knowledge of reading and writing

results is that the students over a period of time seem to lose oral proficiency of the standard Italian language. This occurs because students do not receive enough aural/oral reinforcement in school since they may eventually only have one to three periods of instruction in Italian per day. Also, the students are no longer bombarded by standard oral Italian through the media nor through the people with whom they come in contact. The rare exception are those students whose families use the standard language for communication. This loss, unfortunately, affects students' reading in that they diminish the world and semantic knowledge they bring to the text (Goodman, 1976), and it becomes increasingly more difficult for them to rely on priori cues, so they slow down and become less proficient readers.

In the case of the illiterate student, he/she is identified and grouped in the category of Italian regardless of the fact that he/she may have oral proficiency of a dialect but may not yet have aural/oral knowledge of standard Italian. Once identified and placed in the Italian bilingual program the student is immediately taught standard Italian reading. This process, as predicted by this study, will eventually deter the student from attaining full proficiency (listening, speaking, reading and writing) in standard Italian. As the student is taught to read in Italian, he/she is simultaneously instructed in ESL. The problem that arises is that all too often the student is pushed into English reading prematurely in that he/she has not been allowed to develop aural/oral and literacy skills in standard Italian (L_1), and he/she has not yet fully mastered aural/oral English. This acceleration creates confusion and sometimes undue intereference from the dialect, standard Italian and English, as the student is not able to maintain the three language systems separately. The result in many cases is that the student forms an inter-language from the combination of any two or all three of the languages/ With this confusion, students are restricted from reaching the threshold level in the three languages. This lack of language proficiency often intereferes with the students' overall school achievement, since language is the essential vehicle for all content areas. If the student does not have the language means to master

content, then his conceptual development is affected and in turn this affects his reading, thus propagating a vicious cycle (Figure 2).

Figure 2



Both potential cases of literate and illiterate students were described because in this study the group ranged from literate recent arrivals (1 month in U.S.) to students who have been here up to 13 years and were illiterate when they entered the bilingual program.

IV. Hypotheses

H_1 a) Considering Piaget (1970) and Vygotsky's (1962) notions, language, inclusive of reading and achievement, should be related to cognitive development.

b) Related to Vygotsky's (1962), and Cummins and Gaultsan's (1974) works, in the case of bilinguals, (Group I) both the native (L_1) and second (L_2) languages should be related to cognitive development and achievement.

H_2 Given the reality of bilingual programs, the cognitive development, reading and achievement in L_1 and L_2 of Italian-American bilinguals (Italian-born and American-born) should be significantly different from those of American and Italian monolingual counterparts. Contributing exploratory, influential factors will be analyzed.

H_3 Given the reality of U.S. bilingual students' environments within Group I, the L_1 reading and achievement levels should be significantly different from the L_2 levels.

V. Aims

1) To study the relationship of reading and cognitive development of monolinguals and bilinguals.
2) To examine and compare the reading, cognitive and achievement levels in the native and second languages for Italian/American bilinguals.
3) To analyze reading, cognitive development and achievement levels of bilinguals in relation to their American and Italian monolingual counterparts. To note the contributing factors for variance.
4) To note the language proficiency of Italian/American bilinguals and determine if in fact they are prepared to be mainstreamed into an L_2 (English) curriculum, i.e., they are functioning on grade level.
5) To explore the tri-lingual issue of Italian/American bilinguals.
6) To delineate cognitive and reading needs of Italian/American biliguals in L_1 and L_2.
7) To develop reading and non-verbal assessment measures in Italian, parallel to those in English.
8) To make educators aware of how bilinguals are functioning in current bilingual programs so that program designs can be adapted to accomodate the L_1 and L_2 strengths and weaknesses of Italian/American bilingual students.

VI. Procedure

Subjects

The total number of subjects examined for this pilot test was 45. Three random samples were selected. Group I included 15 Italian-American students in a bilingual program from Boston, Massachusetts. The students were American-born and Italian-born students who have lived in the U.S. for a number of years. Group II, from Perugia, Italy, consisted of 15 Italian students whose parents have migrated from Southern and Northern Italy. Group III was comprised of 15 American students attending the same school as Group I. All the students were 6th graders, ranging in age from 10-13 years, and attending schools in an urban setting. The SES of the students' families was lower/middle, with most parents working as skilled and unskilled laborers. In the case of Groups I and II, the students were in a second language environment. Group I students were dialectical speakers attempting to learn standard Italian and English as a second language. Group II students were dialectical speakers learning standard Italian as a second language (Tables 3, 4).

Although it was difficult to assemble a suitable number of students from any one dialectical background, the students in this study were representative of the dialects (Sicilian, Napolitan, Calabrese, and Abruzzese) found in Boston, Massachusetts.

Table 3

Home Environment Information

Language Groups	Present Home	Birth Place	No. of Ss	SES	Present Home	Language spoken in home
Group I						
Italian/ American bilinguals	Boston, MA	Italy (Southern)	15	low, middle	urban	dialect
Group II	Perugia, Italy	Italy, (Southern)	15	Low, middle	urban	dialect
Group III	Boston, MA	U.S.	15	low, middle	urban	English

Table 4

School Environment Information

Language Groups	Environment	School	Achievement	Instruction	Language spoken in school
Group I					
Italian/American bilinguals	L_2	middle grades 6,7,8 urban departmentalized 250 students	letter report card grades	English as a medium except as 2 hours of standard Italian per day	Standard Italian English
Group II	L_2[a]	K-8 urban departmentalized 100 students	written evaluations	standard Italian as a medium	Standard Italian
Group III	L_1	middle grades 6-8 urban departmentalized	letter report card grades	English as a medium	English

[a] the second language is standard Italian since students' L_1 (native language) is a dialect.

Testing Measures

For the purpose of this study, various measurement devices have been selected. Considerations in the selection of measures were in terms of rationale, validity of instruments (where applicable) ease of administration and scoring. The measures will each be subsequently described in detail.

The Student Background Questionnaire (Appendix A). The Student Background Quastionnaire was developed to obtain demographic data on students' familial and educational backgrounds. It consists of a series of questions for which each student must write answers. Should the student not be able to do so then the teacher is asked to record the information for him/her.

The Cartoon Conservation Scales: Level II (Appendix B). The Cartoon Conservation Scales: Level II (CCS) developed by DeAvila (1977) was selected as the measure of cognitive development. The rationale was that:

1. it is a non-verbal measure in part,
2. it has been standardized with Mexican-American students, and
3. it measures intellectual development based on Piaget's conservation tasks, which cross cultural research has shown to be less biased for children of "diverse linguistic ethnic backgrounds than the traditional tests of intelligence" (DeAvila, 1977, p. 1).

The CCS consists of 30 items that examine six subscales: (a) Conservation of Substance, (b) Egocentricity of Perspective, (c) Horizontality of Water, (d) Volume, (e) Class Inclusion, (f) Probability.

Validity. The CCS was field tested with Mexican-American students and thus reliability and validity were established. Rivera and Lombardo (1979) also used the test successfully in a study with Puerto Rican children.

The research on the CCS indicated that the test has a high degree of reliability as measured by Cronbach's alpha (DeAvila, Havassy, Pascual-Lear, 1976). Construct and criterion validity were also established. DeAvila (1977) points out that validity studies indicated that the CCS was not biased in terms of "SES, ethnicity, location (urban vs. rural), or sex." (Diesen in DeAvila, 1977). However, since the sample was limited it was not possible to establish a consistently uniform outcome (DeAvila, 1977).

Administration. The test is administered as a group test. The procedure for the administration of the CCS involves the examiner describing a problem for each of thirty cartoon frames representing a Piagetian task. Examinees are instructed to listen and look at the task and then circle the frame that best illustrates the outcome of the indicated problem.

Scoring. The scoring procedure for the CCS is in the Cartoon Conservation Scales Examiner's Handbook (1977) and it involves: (a) Transferring the raw scores onto a score matrix; (b) Tabulating the raw scores; (c) Determining the number of scales passed; (d) Converting from raw to weighted score; (e) Completing the performance summary.

Cloze Tests (Appendix C)

A cloze reading test in English and in Italian was used as one of the measures for determining bilingual students' reading comprehension ability in a preliminary pilot research study. This technique was selected (Lombardo 1979) because the literature on the cloze technique indicates its effectiveness in assessing the reading comprehension (Oller, 1972 in Palmer and Spolsky, 1975) of non-native English speakers. The close technique developed by Taylor (1953) consists of selecting or creating passages at specific readability levels and deleting every n^{th} word.

For this study original passages were generated for first through the eighth grade. The passages written in Italian and English ranged from 30-300 words. For each passage, the 7th word was deleted (See Appendix D). The validity of this procedure is based on Oller's (1975) finding "that translating a passage from one language into another makes possible the construction of cloze tests of equivalent difficulty in both languages ".

Validity. A cloze test can provide an assessment of student's general language comprehension, as all types of words are examined through the n^{th} word deletion process. Generally, the factors that affect comprehension such as general language facility, specific knowledge, native ability to learn specialized vocabulary, motivation and ability to attend are all evaluated by this type of test (Taylor, 1957).

Administration. Administered as a group test, comprehension ability is determined by having the examinee complete the passages. From the context, the student should be able to utilize his/her syntactic and semantic knowledge in providing the missing words. The examinee completes passages within 30 to 45 minute periods until he/she is no longer capable of doing so.

Scoring. In accordance with previous research (Oller , 1975) words that are appropriate in terms of syntax and semantics will be accepted. Accuracy in the range of 38-44% indicates the instructional reading level. (Bormuth, 1968).

Group Informal Reading Inventories (GIRI) (AppendixD)

Based on the work of Johnson and Kress (1965) and Motta (1974) informal reading inventories are a more accurate means for determining students'

reading levels than standardized tests. With this notion, eight original passages, which range in length from 30 to 200 words were prepared in English and Italian. The Fry (1968) and Dale-Chall (1948) readability formulae were used to level the passages from primer to eighth grade. Ten multiple choice questions for each passage were constructed in order to evaluate the students' comprehension level. They were based on Barrett's Taxonomy (Smith and Barrett, 1974).

Validity. Walter (1974) and Pikulski (1974) claim that there is no need for standardizing IRI's since there is automatic reliability and face validity when passages and questions are developed from materials that were used or are to be used in the classroom.

Administration. The GIRI is administered as a group test in a 45 minute period. Students read the graded stories silently and then answer the questions at the end of each selection. They are advised to stop when they no longer comprehend.

Scoring. The ten questions at the end of each story are corrected, When the student has attained a 75% accuracy for a particular story (each story corresponds to a grade level) that becomes his instructional comprehension reading grade level.

Teacher Estimate. Each teacher (Italian reading teacher, English language arts teacher, ESL and English reading teacher) was asked to estimate an instructional reading grade level for each student.

Charts. Charts were also prepared so that teachers could provide information as to the students' previous report grade results and test results.

VII. ANALYSES OF DATA

Table 5 outlines the collection of data. This includes (a) Demographic Data comprised of student background questionnaires, which summarized the variables of: number of years in the U.S., sex, chronological age, grade level, and environment (whether students are living in a first or second language environment). (b) Cognitive Development level representative of the students' performance on the non-verbal measure, the Cartoon conservation Scales. (c) Reading inclusive of students' performance on the Group Informal Reading Inventory and a Cloze Test (for the Bilingual Group I the pooled language score includes performance on the Italian and English versions of these two tests.) and (d) Achievement composed of a Teacher Estimate of the students' reading levels in Italian and English and actual report card grades in Italian Reading, ESL, and English reading (where applicable for each group).

Table 5

Data Collection

Area	Test
Demographic Data	Student Background Questionnaires
Cognitive Development	Cartoon Conservation Scales: Level II
Reading	Cloze Tests Group Informal Reading Inventories
Achievement	Teacher Estimates Report Card Grades
Charts	Additional Information, i.e., Number of years in U.S.

To collect the data, teachers were asked to estimate the students' reading levels and to provide records of students' reading achievement. With the teachers' assistance, students completed the Student Background Questionnaires. The Cartoon Conservation Scales was the first test administered to the group, with Italian and English used intermittently. On the next day, the Italian Cloze Tests were administered followed by the English Cloze Tests. Three days later students were examined through Group Informal Reading Inventories in Italian and English, respectively. The test were then scored and profiles for each student were developed. Table 6 charts a sample of the raw data.

VIII. PRELIMINARY FINDINGS OF PILOT TEST

A general overview of the mean results of the pilot test is charted on Table 7. In terms of chronological age, the bilingual students were somewhat older than their American and Italian monolingual connterparts of the same grade levels. The means for the cognitive developmental age recorded for the bilingual group were significantly lower (age 9.5) than those of the other two groups (ages 11.1 and 10.9). On the average the sixth grade biiingual group is functioning at the nine-year-old or fourth grade level.

The results of these findings can be viewed in several ways. One possibility is that students may not yet have developed the essential skills necessary for performing at their appropriate cognitive developmental level. Another possibility is that the students do not have the conceptual development essential for performing at their sixth grade level, The implication is that since these students are performing at the cognitive level of fourth graders, they cannot

TABLE 6

RAW DATA FOR PILOT SAMPLE

							Reading Performance				Achievement				
							Italian		English		Teacher Est.		Report Card Grade		
	# of years in US	Sex	C.A.[a]	Grade	C.D.A.[b]	Env.	GIRI	Cloze	GIRI	Cloze	Ital. Read. Grade	ESL Grade	Ital. Read.	ESL	Eng. Read.
Group I Bilingual/ American															
I.1	8.5	2	11	6	10.5	0	0[c]	1	5	2	4	6	4	4	3
I.2	7	1	12	6	6	0	3	2	4	2	6	6	2	2	2
I.3	6.5	2	12	6	8.5	0	2	2	5	4	3	6	4	3	3
I.4	13	1	13	6	7	0	4	2	5	4	5	7	4	3	3
I.5	5	2	12	6	10.5	0	3	6	4	4	6	7	4	4	4
Group II Italian															
II.1		1	13	6	12	1	2	3	-	-	3	-	3	-	-
II.2		1	12	6	12	1	4	7	-	-	3	-	3	-	-
II.3		2	11	6	12	1	6	6	-	-	6	-	6	-	-
II.4		2	11	6	9.5	1	3	3	-	-	3	-	3	-	-
II.5		1	12	6	9.5	1	4	5	-	-	4	-	4	-	-
Group III American															
III.1		1	11	6	12	0	-	-	8	8	-	6	-	-	3
III.2		2	11	6	12	0	-	-	4	8	-	6	--	-	3
III.3		2	12	6	12	0	-	-	3	2	-	3	-	-	4
III.4		1	11.5	6	9.5	0	-	-	2	2	-	3	-	-	2
III.5		1	11	6	8	0	-	-	4	2	-	5	-	-	1

Sex = (1) male; (2) female
Env. (Environment) = (0) native language environment
(1) second language environment
Report Card Grades = (1) = D (2) = C
(3) = B (4) = A

GIRI = Group Informal Reading Inventory
a = Chronological Age
b = Cognitive Developmental Age
c = Pre-primer Level

TABLE 7

Preliminary Mean Results of the Pilot Test

	Chronological Age	Cognitive Developmental Age	Reading[a]					
			Italian			English		
			GIRI	Cloze	Total	GIRI	Cloze	Total
Group I Bilinguals[b]	11.8	9.5	3.3	2.8	3	4.4	4.2	4.3
Group II Italians in Perugia, Italy	11.4	11.1	4.6	4.6	4.6		—	
Group III Americans Massachusetts, U.S.A.	11.7	10.9		—		4.5	4.6	4.5

[a]Score is the average of the Group Informal Reading Inventory and Cloze results.

[b]Group was born in southern Italy

n = 45

be expected to deal with sixth grade content matter. The problem is reflected in the students' reading, which is an area heavily reliant upon conceptual development.

When the reading means for L_1 and L_2 reading scores were calculated for the three groups, it was noted that performance for all three groups was well below grade level. The scores were (a) Bilingual Group I, 3, 4.3 (b) Italian Group II, 4.6; and (c) American Group III, 4.5. The bilinguals' performance in English reading (4.3) was considerably higher than that in Italian reading (3). The reason may be that students are exposed to more oral and written English material than they are to oral and written standard Italian since in most cases, students do not use the standard beyond one or two school periods.

To examine Hypothesis One, which purported that language and cognitive development are related, Pearson Correlation Coefficients were calculated between the variables of cognitive development, reading and achievement within Groups I, II,and III respectively and with Groups I, II, and III pooled together.

For Group I two correlational matrices were computed: a) Italian and English reading and Italian and English achievement pooled respectively (Table 8) and b) Italian and English reading and achievement variables treated separately (Table 9). The second matrix was intended to show whether the native and/or second language, in the case of the bilinguals, had an effect upon cognitive development.

The resulting correlations for the first matrix indicated that all of the relationships between cognitive development, reading and achievement were significant ($p < .01$). The results of the second matrix demonstrated that cognitive development correlated with: (a) Italian and English reading ($p < .01$), (b) Italian achievement ($p < .01$) and (c) English achievement ($p < .05$). This finding indicates a strong relationship between cognitive development, bilingualism and achievement.

Table 8

Correlations Between Cognitive Development, Reading and Achievement Within Group I (Italian/American Bilinguals)

	Cognitive Development	Reading	Achievement
Cognitive Development	--	.6382**	.6916**
Reading		--	.8461**
Achievement			--

n = 15
**p ∠ .01

Table 9

Correlations Between Cognitive Development English Reading, Italian Reading, Italian Achievement and English Achievement Within Group I (Italian/American Bilinguals)

	Cognitive Development	Italian Reading	English Reading	Italian Achievement	English Achievement
Cognitive Development	--	.5788**	.6617**	.7060**	.5389*
Italian Reading		--	.8754**	.7934**	.7033**
English Reading			--	.7648**	.7713**
Italian Achievement				--	.7268**
English Achievement					--

n = 15 * p ∠ .05 ** p ∠ .01

In addition, Italian reading had a strong relationship with English reading and with Italian and English achievement, respectively ($p < .01$). English reading had a high coorelation with English achievement significant ($p < .01$). The noteworthy relationship is that between Italian and English reading. It seems that the native language has a relationship with the second language. The reason for this relationship may be, that the same skills are examined in both languages or that the ability to perform well in one language will affect performance in the other.

Within Groups II and III (Tables 10, 11) significant coorelations ($p < .01$ and $p < .05$) were also found. In both groups cognitive development and reading coorelated ($p \leq .05$); reading and achievement were strongly related ($p < .01$).

When the bilingual Group I and the two monolingual groups II and III were pooled (Table 12), (a) again cognitive development had a significantly high coorelation with reading ($p < .01$) and a strong relationship with achievement ($p < .05$); and (b) reading was related to achievement ($p < .01$).

Table 10

Correlations Between Cognitive Development, Reading and Achievement Within Group II (Italian Monolinguals)

	Cognitive Development	Reading	Achievement
Cognitive Development	--	.4639*	.2813
Reading		--	.7257**
Achievement			--

n = 15 * $p < .05$ ** $p < .01$

Table 11

Correlation Between Cognitive Development, Reading and Achievement Within Group III (American Monolinguals)

	Cognitive Development	Reading	Achievement
Cognitive Development	--	.5023*	.4328*
Reading		--	.8442**
Achievement			--

n = 15
*$p < .05$
**$p < .01$

Table 12

Correlations Between Cognitive Development, Reading and Achievement Among Pooled Groups I, II and III.

	Cognitive Development	Reading	Achievement
Cognitive Development	--	.56668**	.2717*
Reading	--	---	.6159**
Achievement	--	--	--

n = 45
*p < .05
**p < .01

In order to examine Hypothesis Two, which proposed a significant difference to occur between the means of Groups I, II and III for each of the three variables, cognitive development, reading and achievement, a one way analysis of variance (ANOVA) was calculated. Following the ANOVA, Newman-Keuls Post Hoc tests (Nie, et. al., 1975) were computed for the variables that indicated a significant f value in the ANOVA, and Multiple Regression Analysis was performed to note the contributing factors for variance. The f value results of the ANOVA between the three groups are summarized in Table 13.

The ANOVA for the variable of cognitive development produced an f value of 3.758 ($p < .05$). When the Neuman-Keuls Post Hoc comparison was computed, the mean difference between Groups I and II was 1.48. Group II was higher ($p < .05$). The mean difference for Groups I and III was 1.60. Group III was higher ($p < .05$). The importance of this result is that the bilingual group appears to lag behind the monolingual group in terms of cognitive development. The problem may be the fact that these students are not yet balanced bilinguals or have not reached a threshold level as indicated by their test results, therefore, their bilingualism does not have a positive effect upon cognitive development (Cummins, 1977, 1980).

For the second variable, reading, the f value was 1.223 and there was no significant difference between the means of the three groups. In this computation it must be noted that for the bilingual group, an average was taken for the Italian and English reading.

The ANOVA performed for the variable of achievement produced an f value of 4.347 at ($p < .02$). When the Newman-Keuls Post Hoc Test was performed, results showed that the mean difference was 1.902 for Groups I and III. The mean for Group I was significantly higher ($p < .05$) than that of Group III. The mean for Group II was higher than that of Group III with a value of 2.1334

Table 13

One Way Analysis of Variance for the Variables of Cognitive Development, Reading and Achievement Among Groups I, II and III

Variables	f values	Probability (P)	Degrees of Freedom (d.f.)
Cognitive Development	3.758	.03	44
Reading	1.223	.30	44
Achievement	4.347	.02	43

at ($p < .05$). The achievement mean of the bilingual group is higher than that of the English monolingual group and the achievement mean of the Italian monolinguals was higher than that of the English monolinguals. This last result is similar to the difference in the reading results noted for the two groups.

In the Multiple Regression analysis performed to note the contributing factors for the variance between the three groups, the dependent variables were cognitive development, reading and achievement. The independent variables were sex, environment, age, and number of years in the U.S. (Group I).

Results of the Multiple Regression analysis indicated that (a) for Cognitive Development, sex had an effect ($p. < .08$), age had some effect and environment had a significant effect ($p < .01$) (b) for Reading, age had some effect, and (c) for Achievement all three variables of sex, age and environment had a significant effect of $p < .01$ and $p < .05$ and $p < .10$ respectively.

The number of years in the U.S. for the bilingual group had no effect upon cognitive development, reading and achievement. The possible explanation is that the sample was not large enough for one to draw adequate conclusions.

For Hypothesis Three, which involved the examination of variance between Italian and English reading and achievement levels within Group I, and between the same variables for Groups I and II and Groups I and III t-tests were computed.

Within the bilingual Group I the t-test results indicated students' English reading and achievement scores to be significantly higher ($p < .01$ and $p < .05$ respectively) than their Italian reading and achievement results.

T-test results between Groups I and II for Italian reading and achievement were as follows: (a) the monolingual (Italian) Group II scored significantly ($p < .05$) higher than the bilingual Group I and, (b) there was no significant difference in achievement between the two groups.

Results of the t-test examining the variance between Groups I and III indicated that for reading, there was no significant difference between the the two groups and in terms of achievement the bilingual Group I scored significantly higher than the (American) Group III. It must be noted that in reading both the bilingual and monolingual American groups were performing below grade level. Again the higher achievement level of the bilingual group is accounted for by the fact that students are graded on their abilities.

The results of the preliminary pilot test tend to support the major hypotheses tested in this study. However, the question of whether similar results would be attained with a larger sample remains to be researched.

IX. CONCLUSIONS

1. In accordance with Hypothesis One there was a relationship between language and cognitive development and more specifically a relationship between bilingualism and cognitive development and achievement. The results of both bilinguals and monolinguals are in direct agreement with a) the literature (Vygotsky, 1962; Piaget, 1970) purporting a relationship between language, and bilingualism and cognitive development and b) the research (Goodman, 1976; Ruddell, 1976; and Ingram, 1974) relating conceptual development to reading and c) the findings (Lambert and Peal, 1962) that reading is related to achievement. It would appear then, that students' world knowledge as internalized through oral and written language affects bilingual and monolingual students' achievement in school.

The linkage here is quite clear. Cognitive development is essential for reading development and reading development is crucial to achievement in school. Teachers can intervene in this chain by enriching students' world knowledge (concepts and vocabulary) via one or two language systems as in the case of bilinguals. With the development of world knowledge, then reading is improved. In turn, as reading is improved the students are then better equipped to achieve in the overall school curriculum.

2. For Hypothesis Two analysis of variance among the bilingual and monolingual groups indicated that:

a) for Cognitive Development the means of the monolingual groups were higher than those of the bilingual group. The bilinguals tended to lag 1-3 years in cognitive development. This problem is severe in that students will encounter problems in reading, content areas and overall academic achievement if they have not developed a solid, conceptual background. Again for students to be able to handle content and concepts presented to them orally and in

print for their grade levels, teachers must ensure that cognitive development occurs;

b) in terms of Reading there was no significant variance between the three groups, when reading for the bilingual group was treated per se, without making it specific to the native or second language. This is encouraging because in spite of the fact that bilinguals had two language systems to contend with, they were on par with students who only had to deal with one language system. The implication here is for bilingual students to be provided instruction in the two languages for a longer period of time until knowledge in the two languages becomes balanced; and

c) as for Achievement, results indicated that the bilingual group performed significantly higher than the English monolingual group. The considerably high achievement on the part of bilinguals may be attributed to (a) high motivation and overachievement (b) to the fact that teachers tended to grade bilingual students based on their individual efforts and relative performance and (c) the fact that teachers rewarded students with higher grades in an attempt to improve their self concepts. The point here may be that initially in a bilingual program students should not be graded but as they begin to acquire language skills, then demands can be placed on their performance.

Through Multiple Regression analysis, contributing exploratory variables were examined:

a) for Cognitive Development sex had an effect. Girls generally tended to perform better than boys in overall language development. This notion is fairly accurate in that girls and boys were fairly balanced with a ratio of 23 to 22. Environment also had an effect upon cognitive development, indicating that whether students were in their native or second language environment made a difference as to how well they had developed cognitively. It seemed that students in a second language environment lagged behind the students who had

never left their native language environment. This lag may be accounted by the fact that the bilinguals in a second language environment had not yet reached a threshold level for L_1 and L_2, thus creating cognitive deficiencies (Cummins, 1980);

b) for Reading, chronological age had some effect in that the more proficient readers tended to be the younger students. It seems that overagedness goes hand in hand with reading difficulties.

c) for Achievement, sex had an effect. Because girls tended to be the better readers, they were in turn the better achievers. Age had an effect in that the overaged, less proficient readers tended to be the underachievers. Environment had an effect in that the bilinguals finding themselves in a second language environment had to work harder in order to achieve and be able to complete with monolinguals.

It can be concluded from the influence of the variables of sex, age and environment upon cognitive development, reading and achievement, that (a) boys need even more attention than girls in reading and cognitive development (b) the overaged students need remediation in order to reach grade level performance and (c) in the case of bilinguals, they need to be given sufficient time in a program to balance their L_1 and L_2 before language can positively affect their cognitive development.

3. For Hypothesis Three variance for English and Italian within bilingual Group I was calculated. Although bilinguals' performance was below grade level in both languages their English reading and achievement scores were higher than their Italian scores. The reason for this difference is that most of the bilingual students have been in the U.S. for a period of time, in some cases over five years and have been exposed to a great deal of oral and written English in school and outside of school. However, the students do

not perform as well in Italian for several reasons. Firstly, in school the students are limited in exposure to standard Italian, receiving it only two to three periods per day. Secondly, outside of school the students are exposed to their dialect which in many instances interferes with their use of standard Italian. Since students have not reached a threshold level in both languages they require more Italian, with a heavy dosage of oral standard Italian, since the students get little practice with the standard language outside of school, where their dominant language is their dialect.

Variance in reading and achievement was also noted between the bilingual and monolingual groups. When the bilingual group was compared with the monolingual Italian group results indicated that the Italian group was superior in reading but not in achievement. The reason is that Italian students in Italy are exposed to a great deal of standard oral Italian which helps them in reading the standard language. Interestingly though, there was no significant difference in achievement (score which included teacher estimates and report card grades) between the two groups. For the bilingual group it could indicate that (a) students tended to be motivated and consequently performed well and (b) teachers were inclined to grade students based on their effort rather than against students' performance in relation to their grade level or to other students.

When the bilinguals' English reading and achievement were compared to those of the American monolingual group, there was no significant difference in reading, however, the bilingual group had higher achievement than the monolingual group. The fact that there was no difference in English reading certainly has several implications, that : (a) the bilingual program is effective (b) in spite of the fact that these Italian students had three linguistic systems (standard

Italian, dialect, English) with which to contend, they were still able to read English as well as the monolingual English group and that (c) when the bilinguals would eventually be mainstreamed into the English curriculum they would be capable of competing with their monolingual peers.

As for achievement again the bilingual group was in the forefront. The implication from this and an earlier result is that bilingual students tend to be motivated to achieve in their L_1 and L_2.

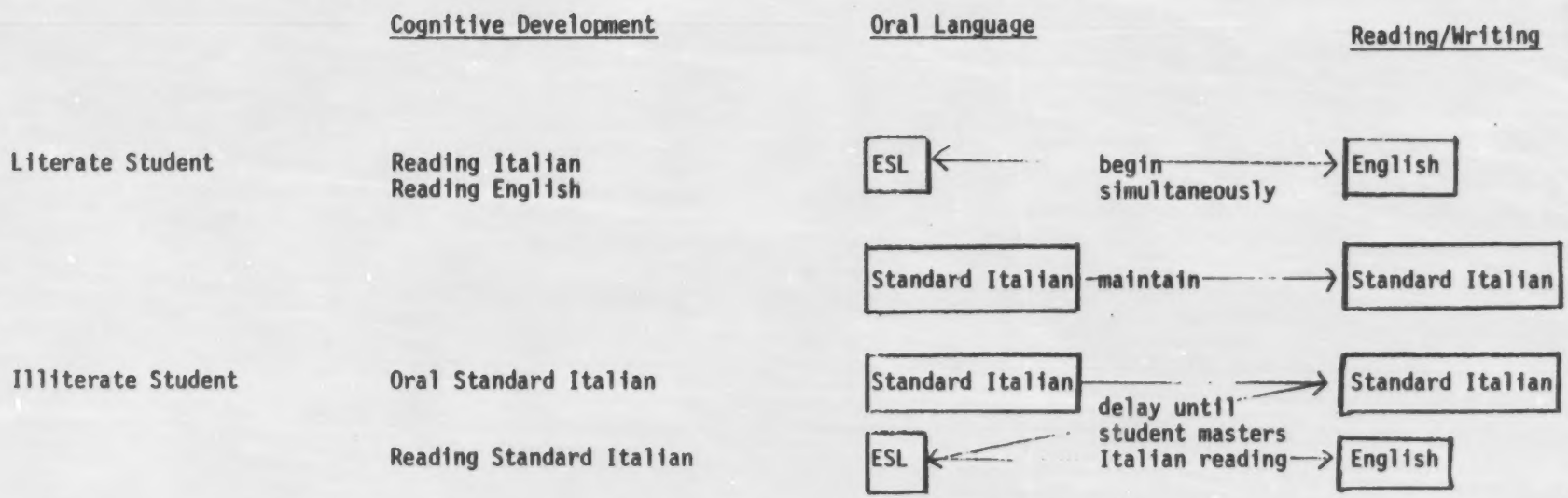
X RECOMMENDATIONS

Based on the results of this pilot study and other research (Cummins, 1980) indicating that older bilingual students perform higher than monolinguals in terms of cognitive and language development, a proposed situation for allowing literate and illiterate students to acquire cognitive development and oral and written language has been charted on Table 14.

A possible solution may be to slow down the process of acquiring two languages. Students literate in Italian would begin acquiring English literacy skills immediately along with simultaneous development of oracy skills in English and full maintance of oracy and literacy skills and conceptual development in Italian. Illiterate students would be allowed to fully master cognitive skills via Italian and to develop their Italian (L_1) oracy and literacy skills before being introduced to these same skills in English (L_2). Through this process the student would become less confused, develop his/her world knowledge, master reading skills (word recognition, comprehension), and attempt to reach Cummins' threshold level in both L_1 and L_2. The process would have to be carefully monitored and controlled to help students attain and maintain the two languages. The key for both groups is to provide students the opportunity for conceptual development via the language in which the student demonstrates the most competence. Although these processes seem timely, they actually accelerate the process of trilingualism for the Italian/American. Support for this contention comes from Cummins' (1980) interdependence hypothesis and his notion that the, "older L_1 learners whoses L_1 CALP (cognitive academic language proficiency) is better developed, will acquire cognitive/academic L_2 skills more rapidly than younger learners." (p. 37).

Table 14

Proposed Means for Cognitive and Language Development of Literate and Illiterate Italian/American Bilinguals



XI IMPLICATIONS OF THE PILOT STUDY

1) Since language and cognitive development are interlinked and reading is so dependent upon cognitive development and reading is essential for achievement, it is crucial the teachers strengthen the conceptual or world knowledge of bilingual students through language in L_1 and L_2, so that the students will, in turn, become more proficient readers and then become better achievers.

2) Cummins' threshold hypothesis has been supported by this study the students are lagging behind in L_1 and L_2, and in order for them to become balanced they need more Italian. The fact that they are not balanced bilinguals is also reflected by their lag in cognitive development. Teachers have to be aware of the fact that primary to language proficiency is the ability of students to abstract concepts.

3) Three years may not be a long enough period for students to become fully bilingual. As indicated by the pilot results, the bilinguals are behind in Italian reading. Evidence in support of giving bilinguals more time in bilingual programs comes from research finding that older bilinguals tend to perform better in terms of cognitive and language development (Cummins, 1980).

4) Bilinguals are overachievers which implies that teachers should challenge them in both languages and help them to reach a balance by transferring reading skills from one language to the other.

5) Literate bilingual students learning to read in L_1 tended to transfer skills to L_2 yet they did not maintain a high level of oral proficiency over a period of time, their Italian dropped off as Kjolseth put it, the native language is only used as a bridge in bilingual programs that is eventually burned when no longer needed.

6) From the results, bilingual students appear ready to be mainstreamed, in that their English reading and achievement levels superseded their Italian levels.

Suggestions for Future Research

A. The study should be replicated with a larger sample:
   1. The bilingual sample should be subdivided into Italian born and American born.
   2. The bilingual group should also be examined in terms of literate and illiterate students.

B. Total language proficiency including listening, speaking, reading and writing in L_1 and L_2 as well as cognitive development and achievement (Cummins, 1980) should be studied with speculation of interrelations between these areas and languages.

C. In terms of methodology, students should be allowed to read, and provide responses for Cloze passages orally because from silent reading and the writing of responses it cannot be clearly inferred whether a student has a reading or writing problem.

D. Error analysis of students, responses should be performed.
   1. The cloze test results should be examined for syntactic, semantic type errors.
   2. The Group I Informal Reading Inventory comprehension question responses should be studied to note the level of questions in which the students experience difficulty, i.e., literal, interpretive, applicative levels.

APPENDICES:

A. Student Background Questionnaire
(English and Italian Versions)

B. Cartoon Conservation Scales: Level II
(English and Italian Versions)

C. Cloze Test
(English and Italian Versions)

D. Group Informal Reading Inventory
(English and Italian Versions)

Group I Name: _____

BILINGUAL STUDENT BACKGROUND QUESTIONNAIRE

1. When were you born? _____

2. Where were you born? _____

3. Family _____

	Names	Ages	Occupations
a) Parents	_____	_____	_____
b) Brothers	_____	_____	_____
c) Sisters	_____	_____	_____

4) How many years has your family been in the U.S.? _____

5) Why did your family come to the U.S.? _____

6) What dialect do you speak at home? _____

7) Previous schools that you have attended: _____

	Names	Locations	Grades
a)	_____	_____	_____
b)	_____	_____	_____
c)	_____	_____	_____
d)	_____	_____	_____
e)	_____	_____	_____

8) How long have you been in the bilingual program? _____

9) a) Tell the language you like to use the most; your dialect, standard Italian, English? _____

b) Which language is the easiest for you; dialect, standard Italian or English? _____

10) In which language do you do best; dialect, standard Italian or English?

_____

a) When and where do you use the dialect? _____

b) When and where do you use standard Italian? _____

c) When and where do you use English? _____

11) Do you read at home? What types of materials do you read books, magazines etc.

Nome _____

Group II

Dati personali dello studente

1) Data di nascita _____

2) Luogo di nascita _____

3) Famiglia _____

	Nomi	Età	Occupazioni
a) Genitori	_____	_____	_____
b) Fratelli	_____	_____	_____
c) Sorelle	_____	_____	_____

4) Numero di anni in cui la famiglia e state a Milano _____

5) Motivo per cui la famiglia e venuta a Milano _____

6) Dialetto parlato in casa _____

7) Precedenti scuole frequentate dallo studente _____

	Nomi	Luoghi	Classe
a)	_____	_____	_____
b)	_____	_____	_____
c)	_____	_____	_____
d)	_____	_____	_____
e)	_____	_____	_____

8) Quale lingua preferisce a parlare - il dialetto o l'italiano?

9) Quale lingua ti sembra piu facile - il dialetto o l'italiano?

10) Spiega quando ed in quale situazione usi il dialetto o l'italiano.

11) Leggi a casa? Che cosa leggi?

Name: _____

Group III

Student Background Questionnaire

1. When were you born? _____

2. Where were you born? _____

3. Family:

	Names	Age	Occupation
a. Father	_____	___	_____
b. Mother	_____	___	_____
c. Brother(s)	_____	___	_____
	_____	___	_____
	_____	___	_____
d. Sister(s)	_____	___	_____
	_____	___	_____
	_____	___	_____

4. Previous schools that you have attended:

	Name	Location	Grades
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____

5. Do you read at home? What type of reading materials do you read? (Books, magazines, newspapers, etc.)

_____

_____

_____

_____

_____

CARTOON CONSERVATION SCALES: LEVEL II

EXAMINER'S MANUAL

by Edward DeAvila, Ph.D.

Instructions to the examiner:

The examiner should become sufficiently acquainted with the test and test items to be able to tell (not read) the "stories". It is also important to bear in mind that in some cases words will have to be changed. It is quite permissible to mix the languages in order to facilitate understanding.

Introduction to the Test

SAY	DO
Do you see this book? Do you have one like this?	Point to the book. (Examiner's book, though larger, is exactly the same as the children's booklet.)
Do all of you like the comic books? Very good, here we have many of them and we are going to look at them together. But, first, we have something to write.	Have children (child) fill in identification information except for age. Age, in years and months, and language of test should be filled in by examiner.

English

SAY	
O.K. here the boy and girl have a lump of clay and a glass of water. See?	Point to the lump of clay and glass of water in the first scene.
You know what the boy and girl are thinking? They are wondering what will happen if they put the lump of clay in the glass of water.	Point to the clay and glass in the first scene.
So they put the lump of clay in the water.	
And see here, look what happened. It made the water level go higher.	Point to the glass in the second scene.
Well, now the kids are wondering what will happen if they make the clay into small pieces and put it in the water.	
See, here he's made the lump of clay into small pieces and he's putting them back into the water.	Point to the boy and the small pieces of clay in the third scene.
Now, what do you think will happen when he puts <u>all</u> the small pieces in the water?	
Do you think the water level will stay the same like in this picture?	Point to the answer at the top.
Or, do you think the small pieces will make the water level go up higher than the lump of clay, like in this picture?	Point to the second answer option.
Or do you think the water will go up just as high as when the lump of clay was in the water?	Point to the third answer option at the bottom right.
Mark an "x" in the picture that you think shows what will happen.	

CARTOON CONSERVATION SCALES

LEVEL II

COMICS

EDWARD DeAVILA, Ph.D.

NAME _____

GRADE _____ BOY ___ GIRL ___

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FUMETTI ESPLICATIVI DI CONCETTI GRADUATI (di livelli di concetti):

LIVELLO II

Libretto per l'esaminatore

Edward DeAvila, Ph.D.

tradotto in'italiano da:

Maria Lombardo

Laura Raffo

Intruzioni per l'esaminatore:

L'esaminatore dovra conoscere abbastanza bene le varie parti dell'esame, in modo da potere raccontare (non leggere) le storie. Bisogna anche tenere presente che in alcuni casi delle parole dovranno essere sostituite. Per facilitare la comprensione e anche permesso passare talvolta all'altra lingua.

Introduzione al testo

Vedete questo libro?
Tutti voi ne avete
uno come questo?

A tutti piacciono i fumetti?
Benissimo, qui c'è ne sono molti
e tutti insieme li guardaremo,
ma prima dobbiamo scrivere
qualcosa.

Indicate il libro.
(Il libro dell'esaminatore
è esattamente come quello de
bambini ma più grande).

Fate reimpire ai bambini
la parte riservata
ai dati personali
esclusa l'eta. L'eta
con l'indicazione esattamente
degli anni e dei mesi e
della lingua e l'indicazione
dell'esame dovrà essere
riportata dall'esaminatore.

Da Dire	Da Fare
Benissimo. Vedete? Il ragazzo e la ragazza hanno un pezzo d'argilla e un bicchiere d'acqua. Sapete che cosa pensano? Si, chiedono che cosa cipiterebbe se mettessero il pezzo d'argilla nel bicchiere d'acqua.	Indicate il pezzo d'argilla e il bicchiere d'acqua della prima illustrazione. Indicate l'argilla e il bicchiere della prima illustrazione.
Adesso mettono il pezzo d'argilla nel bicchiere d'acqua.....	
e guardate che cosa è capitato. L'argilla ha fatto alzare il livello dell'acqua.	Indicate il bicchiere della seconda illustrazione.
Bene, ora i ragazzi si domandano che cosa capiterebbe se rompessero il pezzo d'argilla in tanti pezzettini e li mettessero nell'acqua.	Indicate il ragazzo e i pezzettini d'argilla della terza illustrazione
Guardate! Il ragazzo ora ha rotto il pezzo d'argilla in piccoli pezzi e li sta mettendo nell'acqua.	
Che cosa pensi che capiterà quando avrà messo tutti i pezzettini nell'acqua?	
Pensi che il livello dell'acqua sarà quello che vedi in questa figura?	Indicate la prima risposta.
O pensi invece che i pezzettini faranno aumentare il livello dell'acqua più di quanto l'ha fatto aumentare il pezzo d'argilla, come vedi in questa figura?	Indicate la seconda possibilità di risposta.
O pensi che l'acqua salirà alla stessa altezza di quanto è salita quando l'argilla è stata messa nell'acqua?	Indicate la terza possibilità di risposta, in basso a destra.
Segna con una "x" la figura che pensi sia quella che mostra ciò che capiterà.	

CLOZE TEST

DIRECTIONS:

1. On the following pages you will find eight stories. Read each story silently and carefully. As you read, you will notice that certain words were left out. You are to write a word in each blank in order to complete each sentence. Think before you write.
2. Before beginning the test complete the following two paragraphs.

SAMPLE PARAGRAPHS

"Soon the smell of something burning filled the apartment. When Carmen opened the door, she_____ the hall full of thick smoke_____heard people saying,'There's a fire_____the incinerator again.'

'Mama, Papa, Pedro,_____. There's a fire. Why isn't everybody_____ out of the building? Where are _____fire escapes? Will we be trapped?'" *

* Speevack, Yetta, The Spider Plant. New York: Antheum, 1968.

STORY I

Two mice, Pepito and Jose, went into a store at night. They went in through a hole _____ the wall. They saw some cheese. _____ ate and ate. Jose said: "Come _____, let's go." Pepito said: "No, I _____ more cheese." Jose went home. When Pepito tried to leave, he couldn't get through the hole.

ESAME DI COMPLETAMENTO

INTRUZIONI:

1. Nelle seguenti pagine trovarete otto storie. Leggete ogni storia attentamente. Nel corso della lettura notarete che delle parole sono state omesse. Dovrete scrivere una parola in ogni spazio al fine di complementare ogni periodo. Pensate bene prima di scrivere.
2. Prima de cominciare la prova completate i due paragrafi seguenti.

ESEMPI DI BRANI

"Ben presto l'odore di qualcosa che bruciava riempì l'appartamento. Quando Carmen aprì la porta, essa _____ l'ingresso centrale pieno di fumo denso _____ udì della gente dire, 'C'è di _____ un incendio nel inceneritore'.

'Mamma, papà, _____ c'è fuoco. Perchè tutti non sono _____ usciti da questo alto edificio? Dove _____ l'uscita di sicurezza? Rimarremo bloccati?' "

STORY I

Due topi, Pepito e Jose, entrarono in un negozio di notte. Essi erano entrati attraverso un buco _____ muro. Essi videro del formaggio. Pepito _____ e mangiava. Jose disse, "Vieni andiamo." _____ disse: "No, voglio dell'altro formaggio." Jose _____ a casa. Quando Pepito cercò di andar via, non potè più passare attraverso il buco.

GROUP INFORMAL READING INVENTORY (GIRI)

Prepared by:

Maria Lombardo
Charlene Rivera
Joseph Lombardelli

Revised by:

Maria Lombardo Charlene Rivera

(c) 1977

Directions to the students

On the following pages you will find eight stories. Read each story silently and carefully, then on the opposite page please read each question and circle the correct multiple choice response for each of the 10 items.

STORY I

Two mice, Pepito and Jose, went into a store at night. They went in through a hole in the wall. They saw some cheese. Pepito ate and ate. Jose said: "Come on, let's go." Pepito said: "No, I want more cheese." Jose went home. When Pepito tried to leave, he could'nt get through the hole.

STORY I - QUESTIONS

1. How many mice are in the story?
   a. three
   b. one
   c. four
   d. two

2. Where did the mice go?
   a. to visit friends
   b. to a store
   c. to a movie
   d. home

3. How did the mice get into the store?
   a. through the floor
   b. through the wall
   c. through a window
   d. through a door

4. When did the story take place?
   a. at night
   b. in the morning
   c. at lunch time
   d. during the daytime

5. What did Jose do after he ate and ate?
   a. He looked for more cheese.
   b. He talked to Pepito.
   c. He went home.
   d. He went to the store.

6. How do you know Pepito wanted to stay?
   a. He liked the store.
   b. Jose told him to stay.
   c. He was waiting for a friend.
   d. He wanted more cheese.

7. Which word describes Pepito best?
   a. lazy
   b. foolish
   c. angry
   d. smart

8. Why couldn't Pepito get through the hole?
   a. The cat was outside.
   b. He couldn't find the hole.
   c. He was too fat.
   d. Jose was there.

9. Why did Pepito want more cheese?
   a. Pepito was not full.
   b. Pepito did not like cheese.
   c. Pepito did not want his friend to have more cheese.
   d. Pepito wanted to save the cheese.

10. What is a good name for this story?
    a. The Fat Mice
    b. Everybody Loves Cheese
    c. Wanting Too Much
    d. The Cheese

Name: _____

GROUP INFORMAL READING INVENTORY

Answer Sheet

	Story I	Story II	Story III	Story IV
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

	Story V	Story VI	Story VII	Story VIII
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

CONTROLLO DI LETTURA

Prepared by:

Maria Lombardo

Charlene Rivera

Joseph Lombardelli

tradotto in'italiano da:

Maria Lombardo

Laura Raffo

Istruzioni per gli studenti

Nelle seguenti pagine trovarete otto storie. Leggete ogni storia attentamente. Rispondete poi alle domande della pagina accanto e segnate la risposta corretta per ciascuna delle dieci parti.

STORY I

Due topi, Pepito e José, entrarono in un negozio di notte. Essi entrarono attraverso un buco nel muro. Essi videro del formaggio. Pepito mangiava e mangiava. José disse, "Non voglio più formaggio." Jose ritornò a casa. Quando Pepito cercò di andar via, non potè più passare attraverso il buco.

STORY I

1. Quanti topi ci sono nella storia?

   a. tre
   b. uno
   c. quattro
   d. due

2. Dove andarono i topi?

   a. a visitare gli amici
   b. in un negozio
   c. al cinema
   d. a casa

3. Come entrarono i topi nel negozio?

   a. attraverso il pavimento
   b. attraverso la parete
   c. attraverso la finestra
   d. attraverso la porta

4. Quando avvenne questa storia?

   a. di notte
   b. di mattina
   c. a mezzogiorno
   d. durante la giornata

5. Che cosa fece Jose dopo che ebbe mangiato molto?

   a. Egli cercō più formaggio.
   b. Egli parlō a Pepito.
   c. Egli andō a casa.
   d. Egli andō in un negozio.

6. Perche Pepito voleva rimanere?

   a. Gli piaceva il negozio.
   b. Jose gli disse di rimanere.
   c. Egli aspettava un amico.
   d. Egli voleva ancora del formaggio.

7. Quale parola descrive meglio Pepito?

   a. pigro
   b. sciocco
   c. arrabbiato
   d. intelligente

8. Perchē Pepito non potè attraverso il buco?

   a. C'era fuori un gatto.
   b. Egli non riuscia trovare il buco.
   c. Egli era troppo grasso.
   d. C'era già Jose.

9. Perche Pepito voleva ancora del formaggio?

   a. Pepito non era sazio.
   b. Non gli piaceva il formaggio.
   c. Pepito non voleva che il suo amico avesse ancora formaggio.
   d. Pepito voleva risparmiare il formaggio.

10. Quali ē un buon titolo per questa storia?

    a. "I topi grassi"
    b. "A tutti piace il formaggio"
    c. "Volere troppo"
    d. "Il formaggio"

Nome: _____

CONTROLLO DI LETTURA

Foglio delle Risposte

Storia I	Storia II	Storia III	Storia IV
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____
5. _____	5. _____	5. _____	5. _____
6. _____	6. _____	6. _____	6. _____
7. _____	7. _____	7. _____	7. _____
8. _____	8. _____	8. _____	8. _____
9. _____	9. _____	9. _____	9. _____
10. _____	10. _____	10. _____	10. _____

Storia V	Storia VI	Storia VII	Storia VIII
1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____
5. _____	5. _____	5. _____	5. _____
6. _____	6. _____	6. _____	6. _____
7. _____	7. _____	7. _____	7. _____
8. _____	8. _____	8. _____	8. _____
9. _____	9. _____	9. _____	9. _____
10. _____	10. _____	10. _____	10. _____

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